CLAIMS

1. A fuel vapor processing system, comprising:

a fuel tank;

a canister for absorbing fuel vapor produced from said fuel tank;

a first passage communicating a nominal full level of said fuel tank at one end thereof with said canister at the other end thereof;

a float valve provided at the fuel tank end of said first passage;

a second passage communicating a part slightly higher than said nominal full level of said fuel tank at one end thereof with said canister at the other end thereof;

a check valve provided at the fuel tank end of said second passage;

wherein said check valve comprises a low set-pressure valve that opens at a first threshold pressure P1 substantially corresponding to a tank full state, a high set-pressure valve that opens at a second threshold pressure P2 higher than said first threshold pressure P1 and is connected in parallel with said low set-pressure valve, said high set-pressure valve being able to provide a larger flow rate than said low set-pressure valve.

2. A fuel vapor processing system according to claim 1, wherein said low set-pressure valve and high set-pressure valve are disposed coaxially to each other.

3. A fuel vapor processing system according to claim 1, wherein said low set-pressure valve and high set-pressure valve are disposed laterally one next to the other.

4. A fuel vapor processing system according to claim 1, wherein each of said low set-pressure valve and high set-pressure valve is provided with a valve chamber

communicating with a canister end of the corresponding passage, a port communicating with a fuel tank end of the corresponding passage, a valve member adapted to selectively close said port, and a spring member resiliently urging said valve member against said port.

5. A fuel vapor processing system according to claim 4, wherein said valve member of said high set-pressure valve is cup-shaped, and defines said port of said low set-pressure valve in a bottom wall thereof, and said valve member and spring member of said low set-pressure valve is received inside said valve member of said high set-pressure valve.